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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,362	02/08/2001	Freeman Leigh Rawson III	AUS920000522US1	6041

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IBM CORPORATION (DWL)  
C/O LALLY & LALLY, L.L.P.  
P. O. BOX 684749  
AUSTIN, TX 78768-4749

EXAMINER

PATEL, HARESH N

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/779,362

Applicant(s)

RAWSON, FREEMAN LEIGH

Examiner

Haresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: 1-29/2004
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-14, 16-24, are presented for examination. Claim 15 has been cancelled.

#### ***Response to Arguments***

2. Applicant's arguments filed 7/30/2004 have been fully considered but they are not persuasive. Therefore, rejection of claims 1-14, 16-24, is maintained.

Applicant argues (1) that amended claim 12 has the claimed limitations similar to the originally presented claim 15. The examiner disagrees. For example, the original claim 15 contained limitations "prioritizing interrupts to a host processor of the server appliance based upon the priority information", and "interrupting the host processor with a first interrupt to service the application PDUs and interrupting the host processor with a second interrupt to service the management PDUS." As per these original claim 15 limitations, the interrupts that are being prioritized by the priority information, are not the same as the "first interrupt" that services the application PDUs, and "second interrupt" that services the management PDUs, but also interrupt the same host processor. The amended claim has narrower limitations, which did not exist in the original claims, for example, limitation, "prioritizing first and second interrupts based upon the priority information and interrupting the host processor with the first interrupt to service the application PDUs and interrupting the host processor with the second interrupt to service the management PDUs". The claims are open-ended (comprising). Also, page 19 of the specification, lines 7-11, clearly states, "While the present invention has been described in particular embodiments, it should be appreciated that the present invention should not be construed as limited by such embodiments, but rather construed according to the below claims".

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Since, applicant's claims contain broadly claimed subject matter, it clearly reads upon the examiner's interpretation of these actions. Hence, examiner considers amended claim 12 has narrower scope than the originally presented claim 15.

Applicant argues (2) the cited arts do not disclose “priority information is used to control interrupts to a host processor where the interrupts initiate servicing of information, packets buffered in the NIC”, “the interrupts interrupt the host processor, as part of normal operational sequence, to initiate the processing, by the host, of packets that are buffered or stored in the NIC”, “improve system performance by reducing the amount of overhead associated with management packet servicing, by using priority information contained in the packets to control the interrupting of the host processor, the host processor can be interrupted less frequently for low priority packets such as management packets. In the absence of prioritizing the interrupts, management-initiated interrupts and application initiated interrupts would occur equally or randomly, depending on the sequence in which packets arrived at the NIC, thereby potentially causing a significant amount of interrupt processing overhead on low priority packets. An optimized reduction in the number of processor interrupts”, “interrupts used to initiate processing of management PDUs are not generally critical and involve client servicing or indicate a critical condition”, “management packets with data link or MAC headers only”, “packets that have a reduced number of headers”, “reduced header enabling efficient processing of the management PDU’s by eliminating the need to process management PDUs up the entire protocol stack”, “management packets are sent within a particular LAN and only need a MAC address to fully specify the location of the target system”, “processor interrupted to service the buffered management PDUs in response to detecting an absence of management PDU activity for a

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predetermined duration”, “the host processor is interrupted after detecting an absence of application PDU activity”. The examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies ““priority information is used to control interrupts to a host processor where the interrupts initiate servicing of information, packets buffered in the NIC”, “the interrupts interrupt the host processor, as part of normal operational sequence, to initiate the processing, by the host, of packets that are buffered or stored in the NIC”, “improve system performance by reducing the amount of overhead associated with management packet servicing, by using priority information contained in the packets to control the interrupting of the host processor, the host processor can be interrupted less frequently for low priority packets such as management packets. In the absence of prioritizing the interrupts, management-initiated interrupts and application initiated interrupts would occur equally or randomly, depending on the sequence in which packets arrived at the NIC, thereby potentially causing a significant amount of interrupt processing overhead on low priority packets. An optimized reduction in the number of processor interrupts”, “interrupts used to initiate processing of management PDUs are not generally critical and involve client servicing or indicate a critical condition”, “management packets with data link or MAC headers only”, “packets that have a reduced number of headers”, “reduced header enabling efficient processing of the management PDU's by eliminating the need to process management PDUs up the entire protocol stack”, “management packets are sent within a particular LAN and only need a MAC address to fully specify the location of the target system”, “processor interrupted to service the buffered management PDUs in response to detecting an absence of management PDU activity for a predetermined duration”, “the host

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processor is interrupted after detecting an absence of application PDU activity.” is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claims are open-ended (comprising). Also, page 19 of the specification, lines 7-11, clearly states, “While the present invention has been described in particular embodiments, it should be appreciated that the present invention should not be construed as limited by such embodiments, but rather construed according to the below claims”. Since, applicant's claims contain broadly claimed subject matter, it clearly reads upon the examiner's interpretation of these actions. Therefore the rejection is maintained as disclosed above.

### ***Specification***

3. The disclosure is objected. Some of the informalities are:

- i. Page 19, line 12, is missing “.”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Amended claims 2, 12, 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Amended claim 2 recites the limitation “the second server host processor”. There is insufficient antecedent basis for this limitation in the claim.
6. Amended claim 12 recites the limitations, “the host processor”, “the application PDUs”, “the management PDUs”. There is insufficient antecedent basis for this limitation in the claim.
7. Amended Claim 16 recites the limitation, “the host processor”. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3, 7, 10-12, 16, 18, 19, 22, are rejected under 35 U.S.C. 102(e) as being anticipated by McAlear-Nortel-Networks 6,697,372.
10. As per claims 1, 12, 18, McAlear-Nortel-Networks very clearly teaches the following:

a method of handling protocol data units (PDUs) in sever appliance of a data processing network / the server appliance comprising:

a host processor connected to a host memory (e.g., figures 8, 16);

a network interface card connected to the host processor and enabled to connect to and communicate with a central switch of the data processing network (e.g., figures 7-9),

wherein the NIC is further configured to receive and buffer management PDUs (e.g., LAN local packets, figure 25, col., 60, lines 44 – 67) and application PDUs (e.g., col., 60, lines 44 – 67) and to initiate host processing of the management PDUs by asserting a first interrupt (e.g., col., 71, lines 41 – 58) and to initiate host processing of the application PDUs by asserting a second interrupt (e.g., col., 71, lines 41 – 58) and further wherein the NIC is configured to interpret priority information (e.g., col., 60, lines 44 – 67) contained in the application PDUs and the management PDUs (e.g., col., 60, lines 44 – 67) and wherein the NIC is further configured to prioritize the first and second interrupts to the host processor based upon the priority information in the received PDUs (e.g., col., 60, lines 44 – 67).

11. As per claims 3, 19, McAlear-Nortel-Networks teaches the following:

the second server generates application PDUs destined for the external network and management PDUs destined for the first server responsive to the received PDUs (e.g., col., 60, lines 44 – 67).

12. As per claims 7, 16, 22, McAlear-Nortel-Networks teaches the following:



the second server configured to grant higher priority to application PDUs than management PDUs (e.g., col., 60, lines 44 – 67).

13. As per claims 10,11, McAlear-Nortel-Networks teaches the following:

a server appliance and a plurality of additional server appliances each attached to the switch (e.g., figures 7-9) and a management server enabled to manage each of server appliances (e.g.,).

14. Claims 2, 4-6, 8, 9, 13, 14, 17, 20, 21, 23, 24, are rejected under 35 U.S.C. 103(a) as being unpatentable over McAlear-Nortel-Networks in view of “Official Notice”.

15. As per claims 2, McAlear-Nortel-Networks very clearly discloses the following:

However, McAlear-Nortel-Networks does not specifically mention about a network interface card (NIC) comprising a processor and a buffer. “Official Notice” is taken that both the concept and advantages of providing a network interface card (NIC) comprising a processor and a buffer is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a network interface card (NIC) comprising a processor and a buffer with the teachings of McAlear-Nortel-Networks to facilitate a NIC to process the data it uses for communication with other device. The well known use of NIC buffer, for example, Ganz et al 6,09,549, figure 2, would be helpful to store the information that is processed / received by the well known use of NIC processor, for example, Ganz et al 6,09,549, figure 2, as per the software instructions.

16. As per claims 4-6, 8, 9, 13, 14, 17, 20, 21, 23, 24, McAlear-Nortel-Networks very clearly teaches usage of the priority information included in an IEEE 801.q complaint header of the PDUs (e.g., col., 60, lines 44 – 67) and the application PDUs having TCP/IP headers of a TCP/IP protocol stack (e.g., col., 60, lines 44 – 67).

However, McAlear-Nortel-Networks does not specifically mention about management PDU including a single header generated at MAC level and interrupting the host processor responsive to detecting an absence of application PDU activity for a predetermined duration. “Official Notice” is taken that both the concept and advantages of providing management PDU including a single header generated at MAC level and interrupting the host processor responsive to detecting an absence of application PDU activity for a predetermined duration is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include management PDU including a single header generated at MAC level and interrupting the host processor responsive to detecting an absence of application PDU activity for a predetermined duration with the teachings of McAlear-Nortel-Networks to facilitate LAN packets used for management having MAC header only, which is generated at MAC level itself. The well-known use of packets having just one header generated at MAC level, for example, Chuah et al 6,567,416, figure 8A, would be helpful to be used within a LAN. The packet used within the LAN would not need other TCP/IP headers and MAC header would be enough for the packet delivery within the LAN. The well-known concept of interrupting the processor to service the existing collected packets rather waiting more, after a predetermined duration of time, for

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other packets, for example, Chuah et al 6,567,416, timers, would help process the collected information rather waiting for long durations.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (703) 605-5234. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee, can be reached at (703) 305-8498.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Haresh Patel

October 26, 2004

 JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100